

# NATURAL RESOURCES CONSERVATION SERVICE

## CONSERVATION PRACTICE STANDARD

### Mulching

(Acre)

Code 484

#### DEFINITION

Applying plant residues or other suitable materials not produced on the site to the soil surface.

#### PURPOSES

To conserve moisture, prevent surface compaction or crusting; reduce runoff and erosion; control weeds; and help establish new plant cover.

#### CONDITIONS WHERE PRACTICE APPLIES

On soils subject to erosion on which low-residue-producing crops, such as grapes and small fruits are grown; on critical areas; and on soils that have a low infiltration rate.

#### CRITERIA

##### General criteria applicable to all purposes

This standard shall be used in compliance with all federal, state and local laws and regulations.

##### Additional criteria to conserve moisture; prevent surface compacting or crusting; reduce runoff and erosion; and help establish plant cover:

When possible, concentrated flow of surface runoff water shall be diverted from above the area to be mulched.

All areas to be mulched shall be free of rills and gullies.

Immediately after seeding and fertilizing (unless a dormant seeding is to be made), uniformly apply 1 1/2 to 2 tons per acre of straw that is clean and free of noxious weed seeds. At the appropriate application rate, some soil can be seen.

Straw mulch shall be anchored using one of the following methods:

- ♦ Crimp or punch mulch into the ground to an approximate depth of 2 inches.
- ♦ Apply emulsified asphalt (or other suitable tackifier material) to the mulch according to manufacturer's recommendations. Emulsified asphalt shall not be used when air temperatures are below 32°F. Follow manufacturer's recommendations on mixing and temperature control.
- ♦ Apply mulch netting of lightweight paper, jute, cotton or plastic and fasten it to soil according to manufacturer's recommendation.

Alternative mulch materials may be used in lieu of straw mulch at rates and requirements listed in Table 1.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

**Table 1. Alternative mulch materials**

Material	Quality	Rate	Remarks
Hay	Air-dried; free of mold; Free of noxious weeds	2 tons per acre	Anchor like straw
Wood excelsior	Green or air dried burred wood fiber.	2 tons per acre	Anchor with tackifier or netting
Wood fiber cellulose	Partially digested wood fiber; usually with green dye and a dispersing agent.	2,000 lb per acre	Apply with hydroseeder
Jute mat	Undyed, unbleached plain weave; warp 78 ends/yd; weft 41 ends/yd; 60-90 lb rolls.	48 in x 50 yd or 48 in x 75 yd.	Secure as per manufacturer's specification
Excelsior wood fiber mats	Interlocking web of excelsior fibers with photodegradable plastic netting.	48- x 100- inch 2-sided plastic or 48- x 180-inch 1-sided plastic.	Secure as per manufacturer's specification
Straw, coconut or combined mats	Photodegradable plastic net on one or two sides.	6.5 x 83.5 ft, 81 rolls per acre.	Secure as per manufacturer's specification

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**Additional criteria to conserve moisture and control weeds:**
**Orchards**

Approximately four tons per acre of dry matter shall be applied around the trees.

Mulch shall be extended out to or beyond the tree's dripline, and shall be thick enough to smother any grass and weeds beneath the tree.

Mulch shall be kept back two feet from trunk of tree to discourage mouse damage.

**Vineyards and Berries**

After vineyard is established, apply mulch six (6) or more inches deep to replace cultivation and conserve moisture.

**Row Crops**

Weeds shall be controlled by use of cultivation or chemicals before applying mulch.

Apply approximately two (2) tons per acre of clean, dry straw that is free of noxious weeds.

Mulch shall be applied, as soon as possible, after weed control and before crop height prevents spreading of mulch.

After application of mulch, do not cultivate. Control weeds, as needed, by use of chemicals.

**CONSIDERATIONS**

- ♦ Mulching can reduce erosion and the movement of sediment and sediment-attached substances carried by runoff.
- ♦ Consider fire potential.

- ♦ In areas of high erosion potential, such as waterways with high velocities (design velocity at > 3 feet per second), an erosion control blanket should be installed according to manufacturer's recommendations in lieu of loose mulch.

#### **PLANS AND SPECIFICATIONS**

Plans and specifications will be developed for specific field sites in accordance with this practice standard.

#### **OPERATION AND MAINTENANCE**

An operation and maintenance plan will be developed in keeping with this practice standard.

#### **REFERENCES**

U.S. Department of Agriculture, Natural Resources Conservation Service, National Agronomy Manual, Part 506, *Plant Attributes*, 1999.